

FIGURE 1

AFP E1a and E1b Adenovirus Constructs

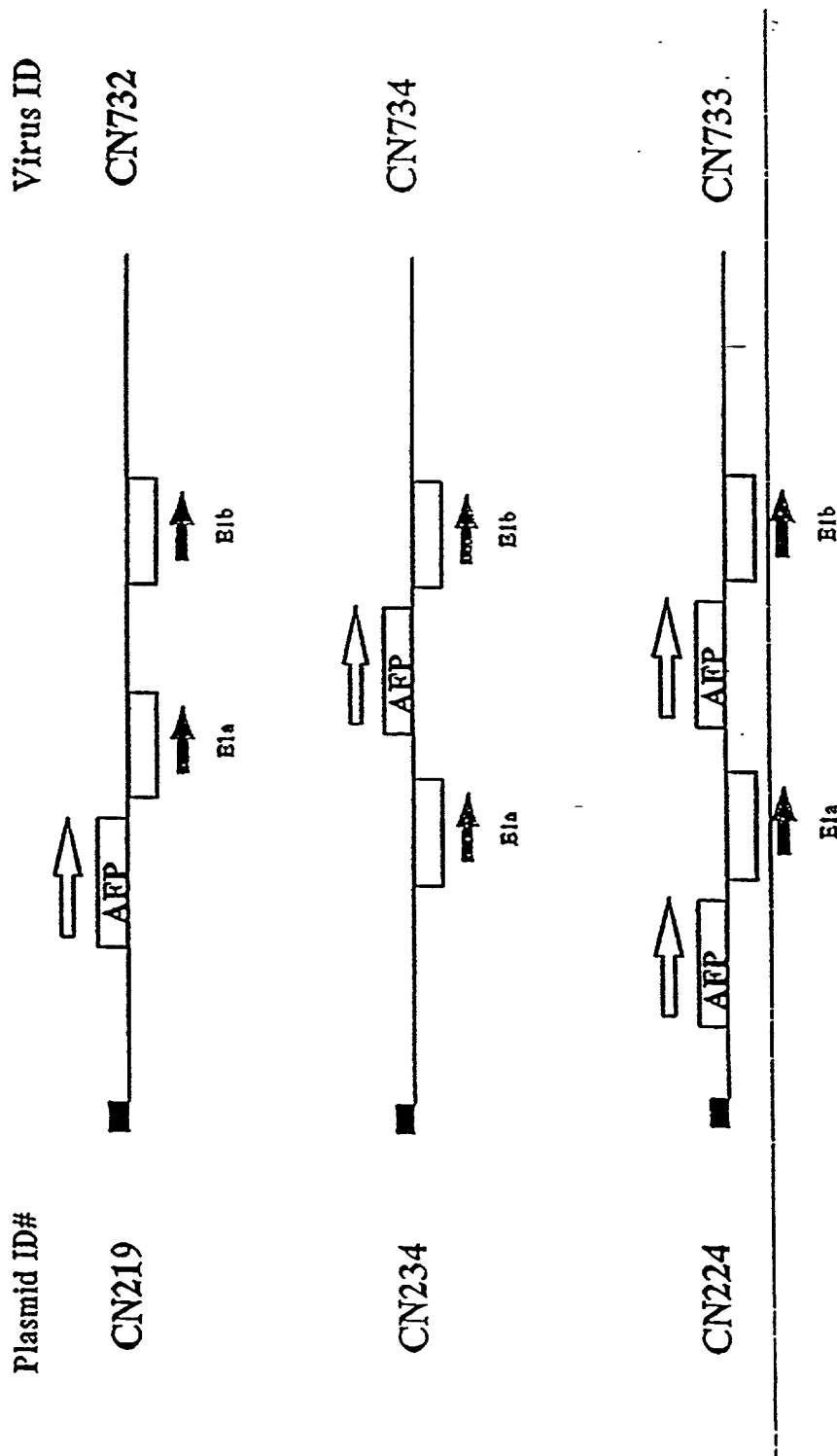


FIGURE 2A

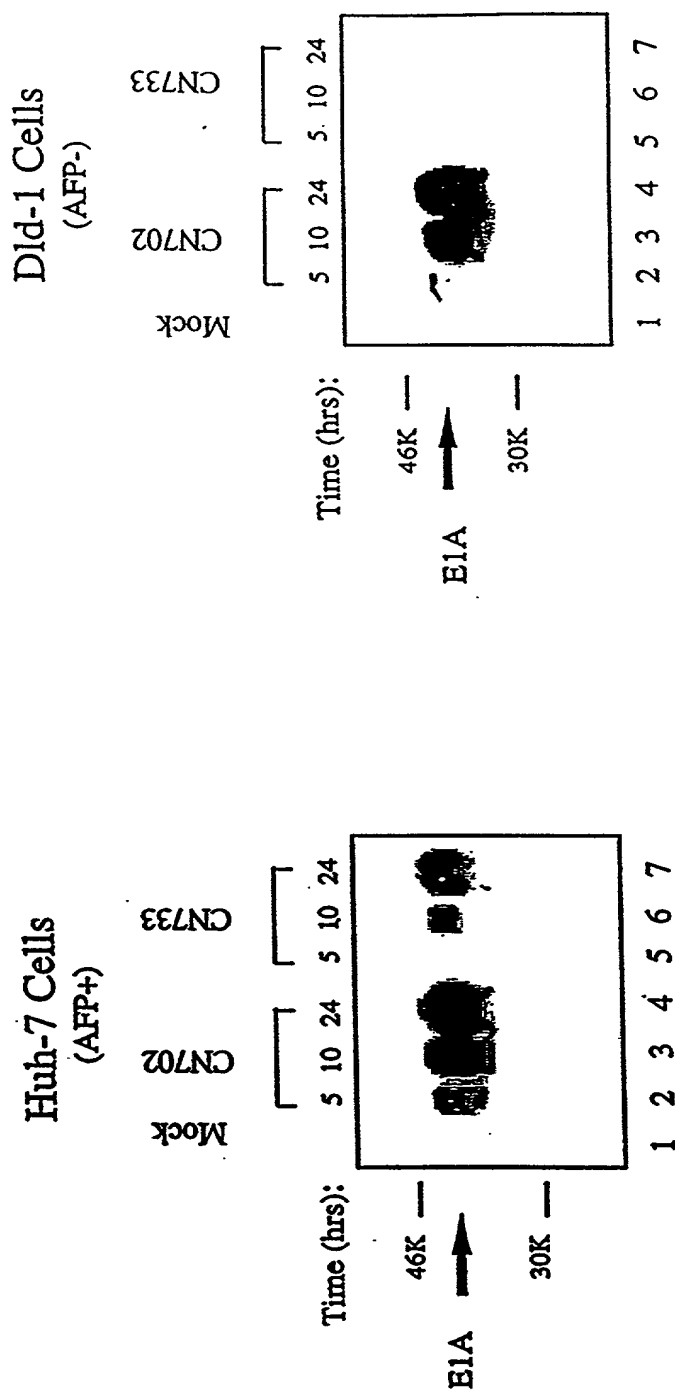


FIGURE 2B

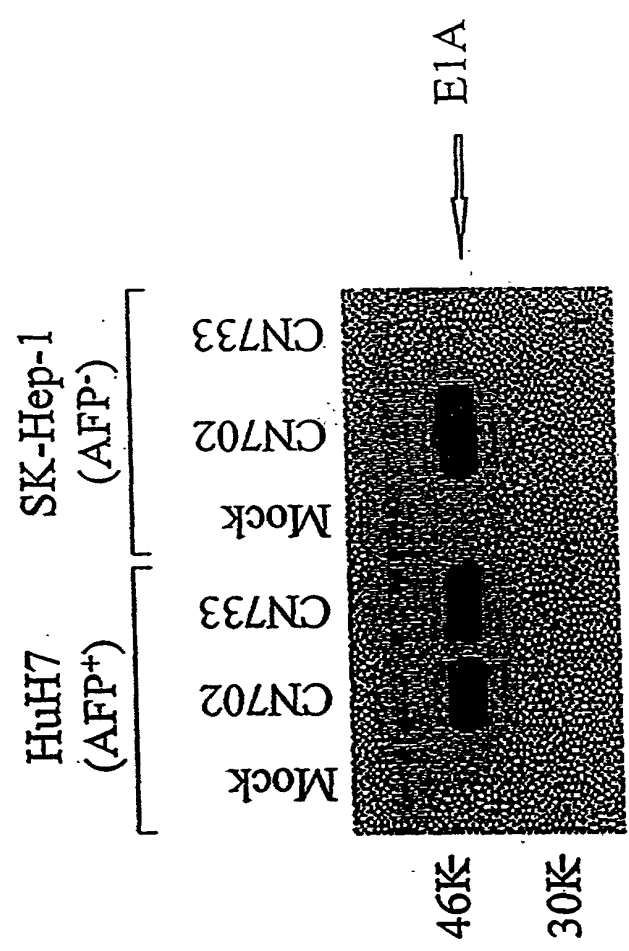


FIGURE 3A

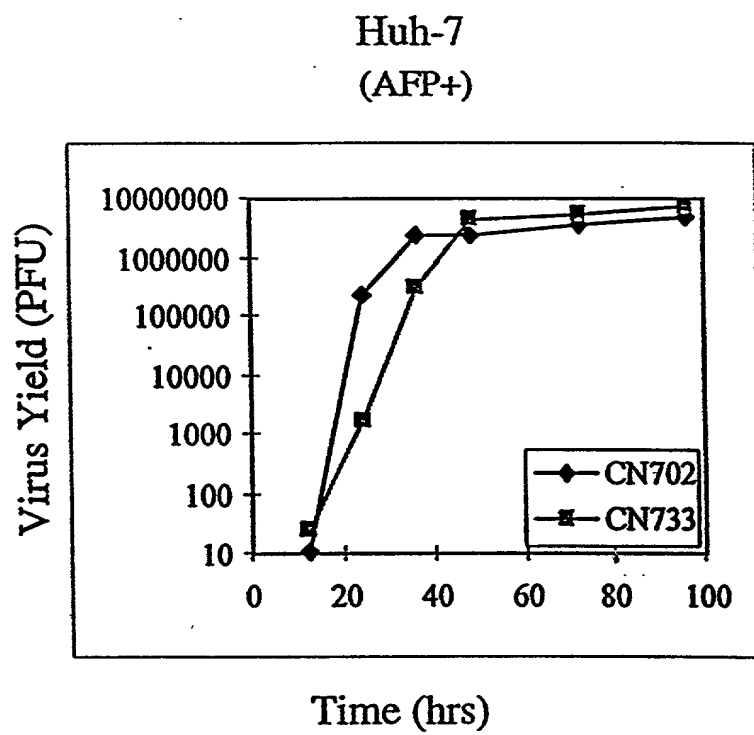


FIGURE 3B

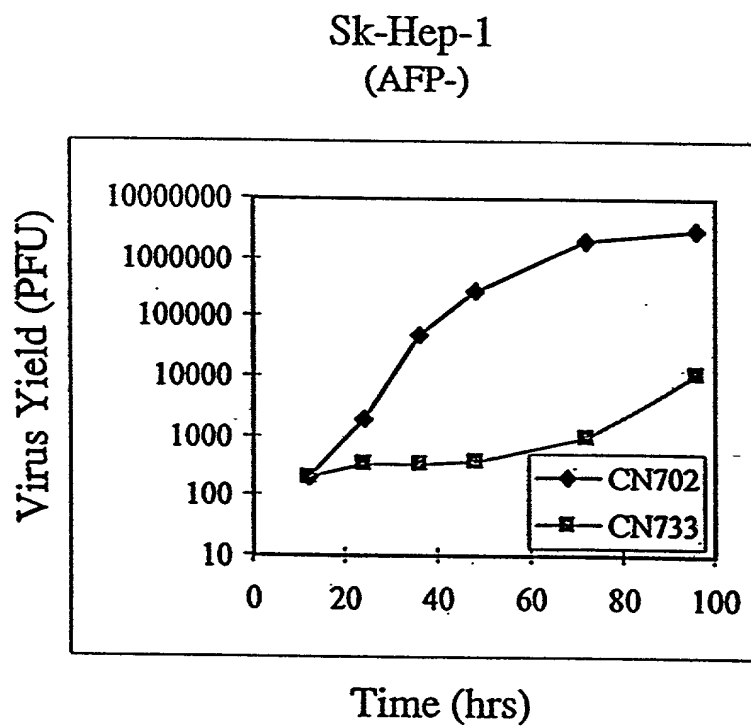


FIGURE 3C

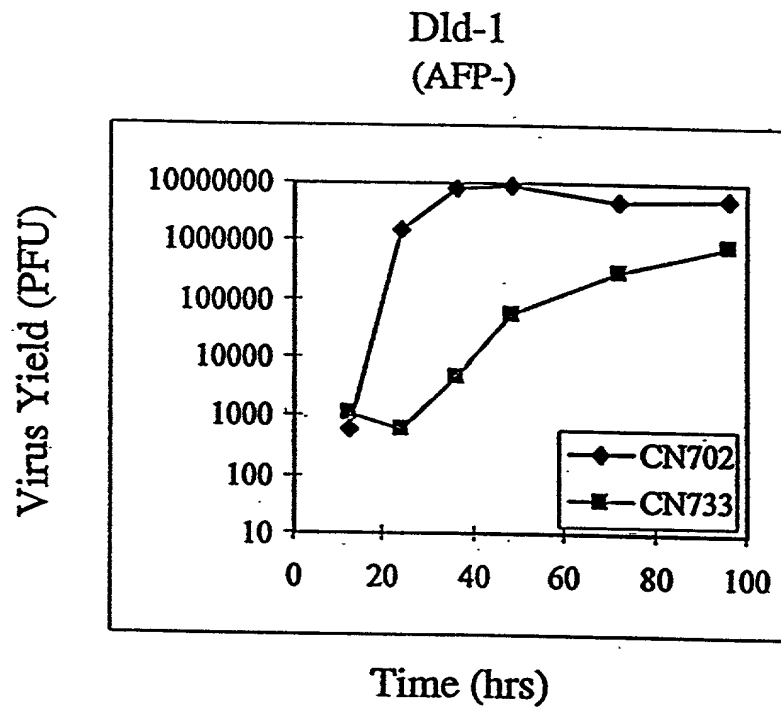


FIGURE 4A

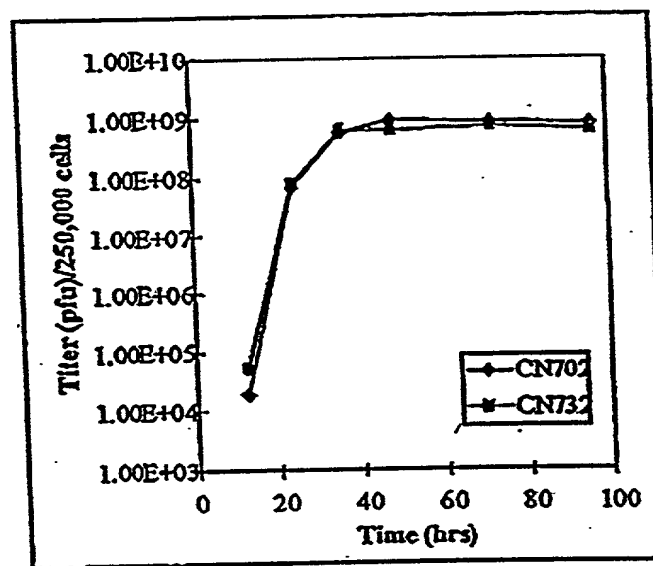
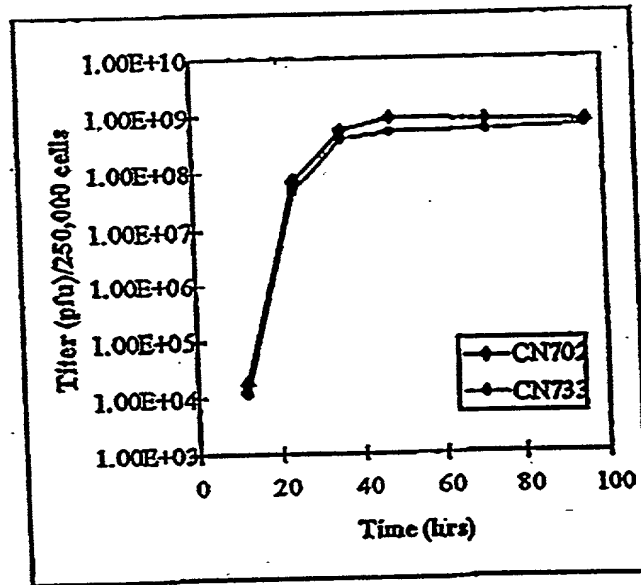


FIGURE 4B



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FIGURE 4C

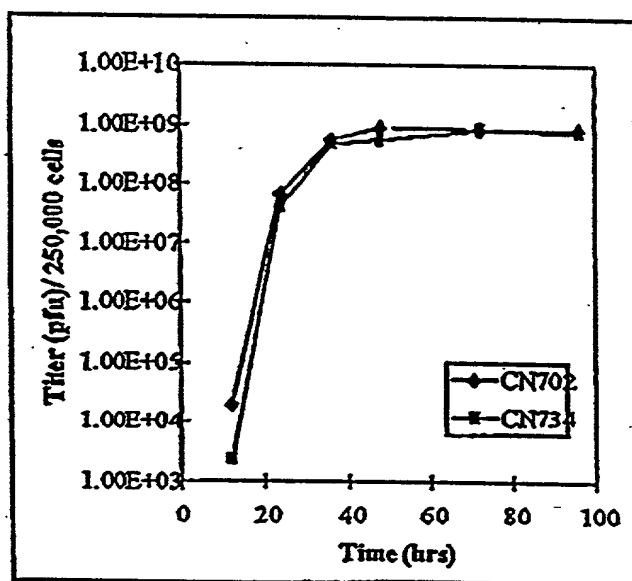


FIGURE 5A

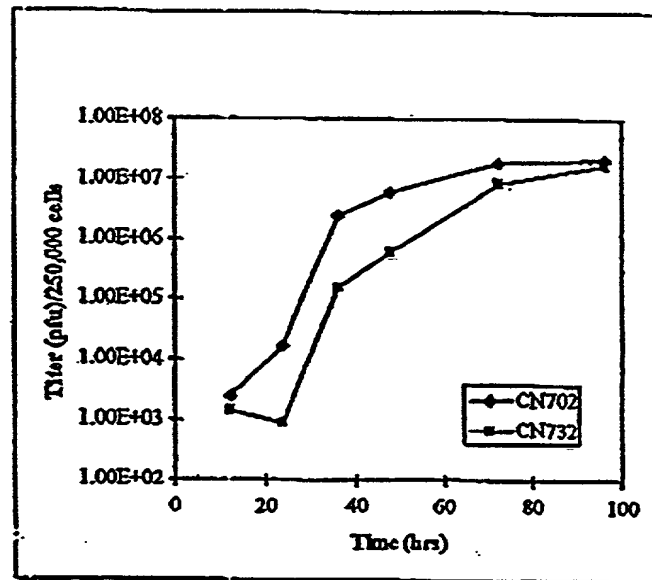


FIGURE 5B

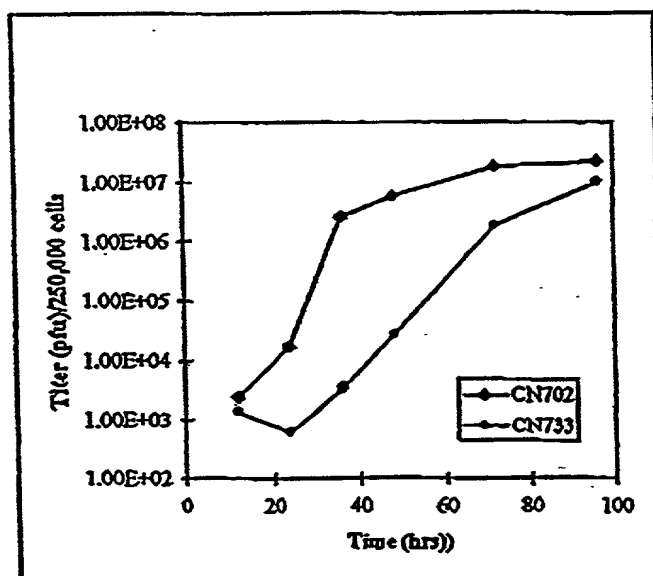


FIGURE 6A

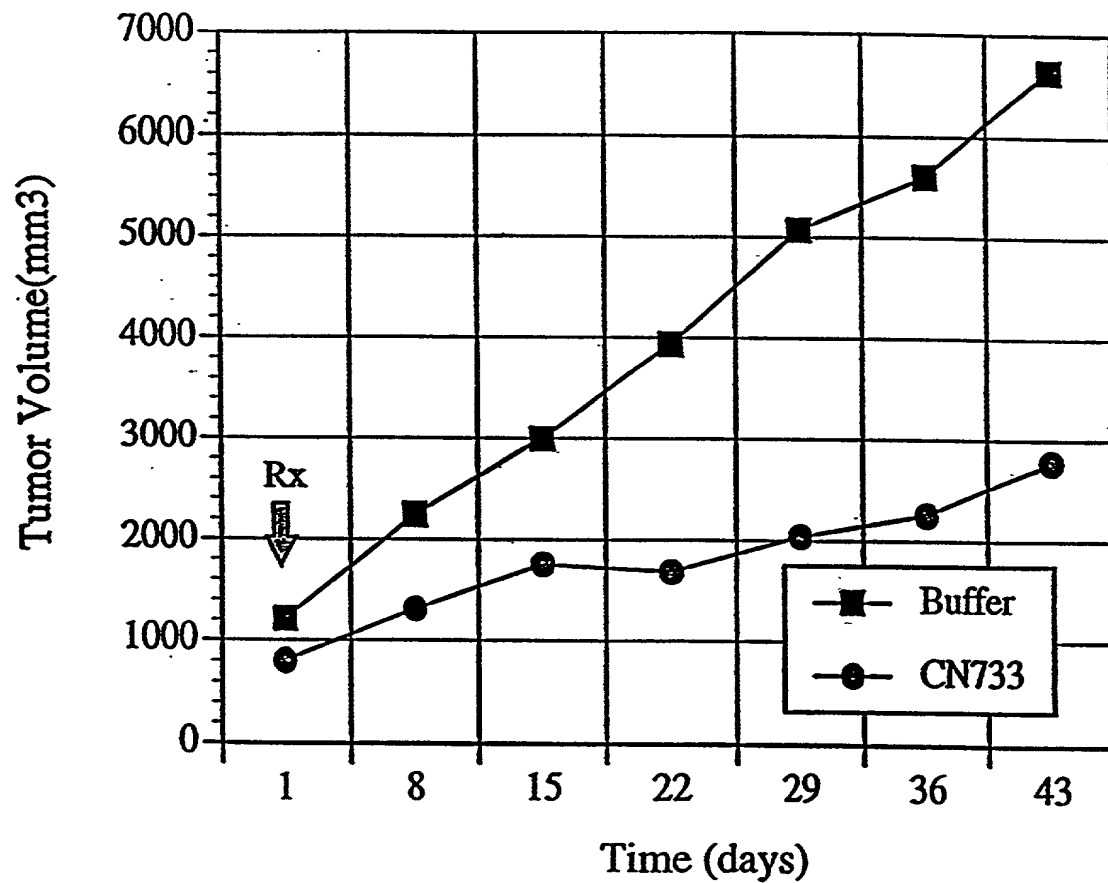
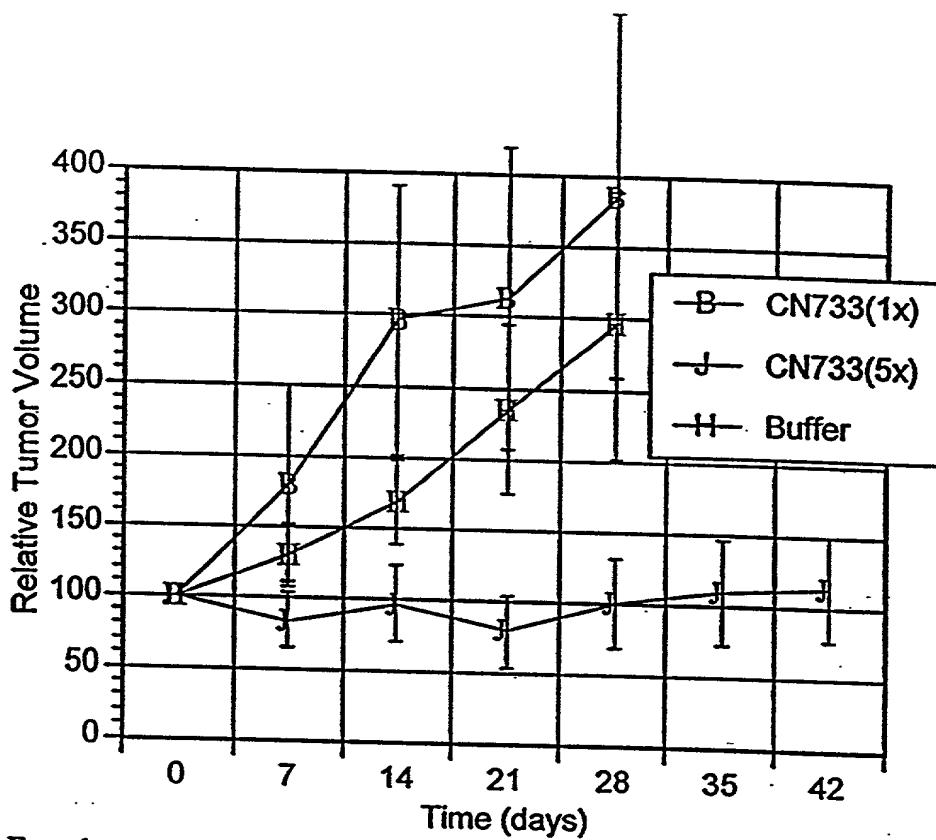


FIGURE 6B



Error bars = standard error

Animals from groups treated with a single dose of CN733 and buffer were sacrificed at 28 days because of excessive tumor burden

FIGURE 7

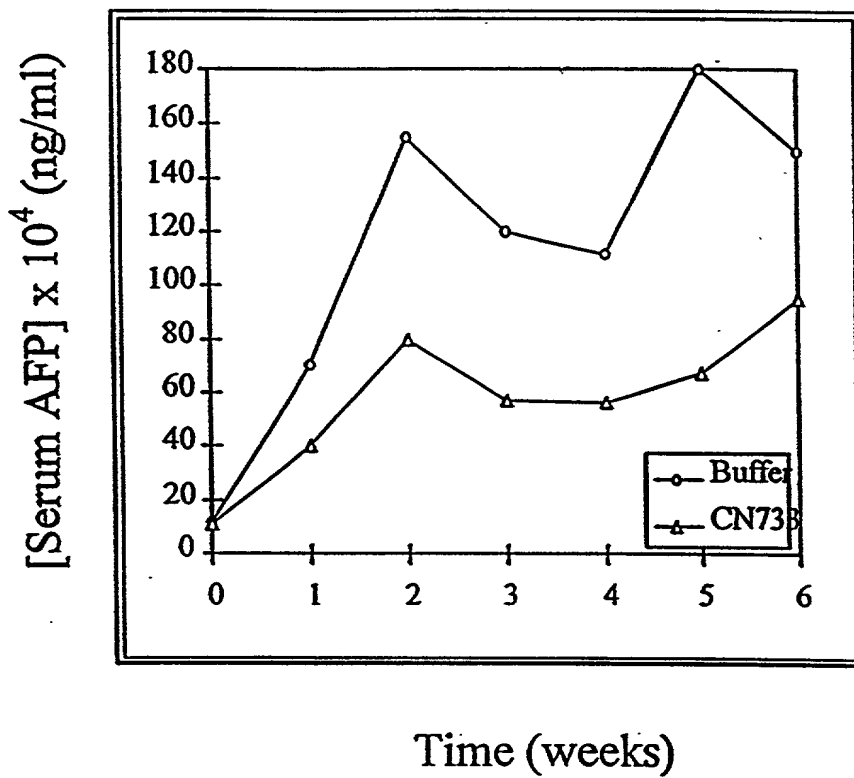
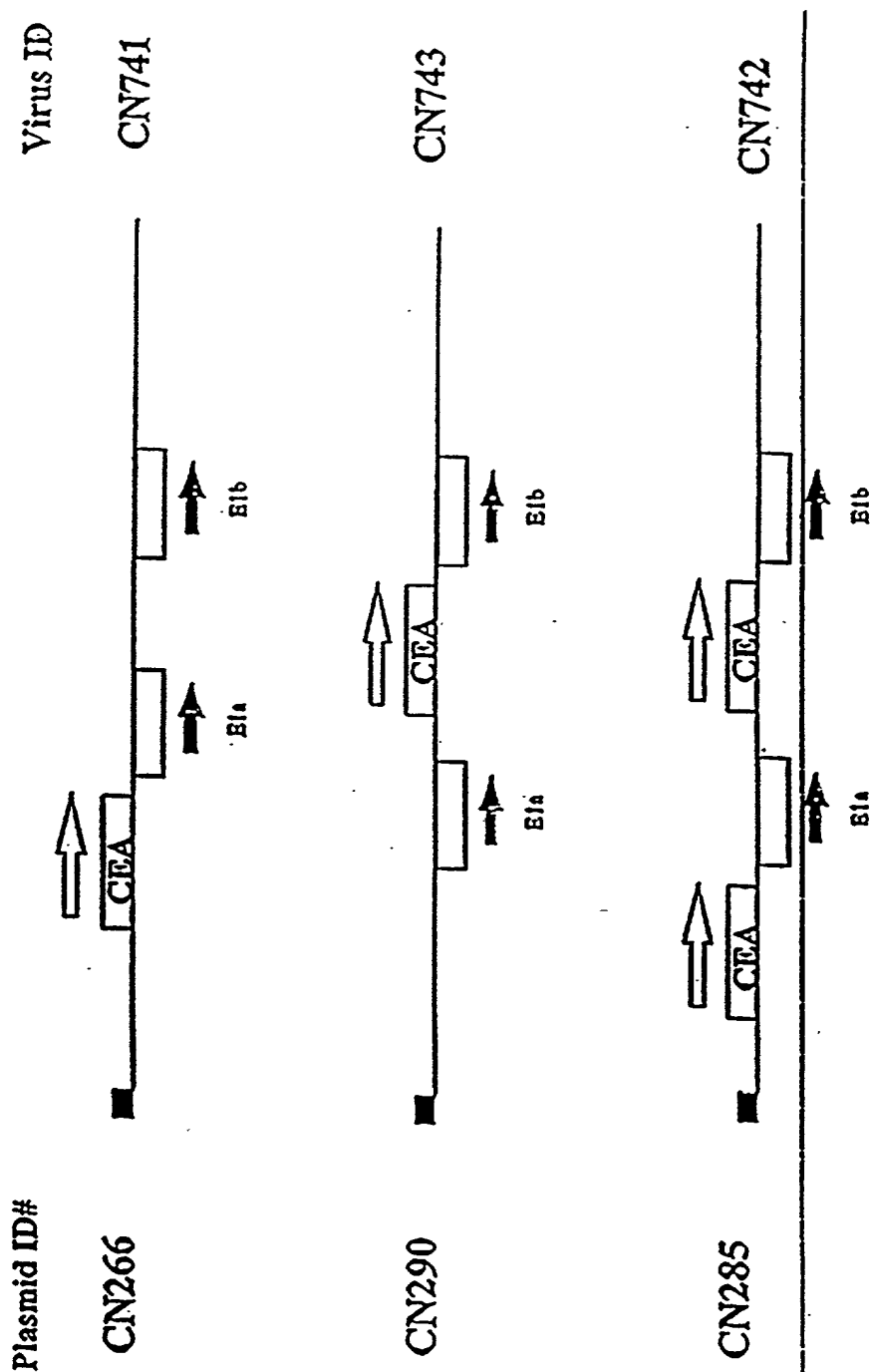


FIGURE 8
 CEA E1a and E1b Adenovirus Constructs



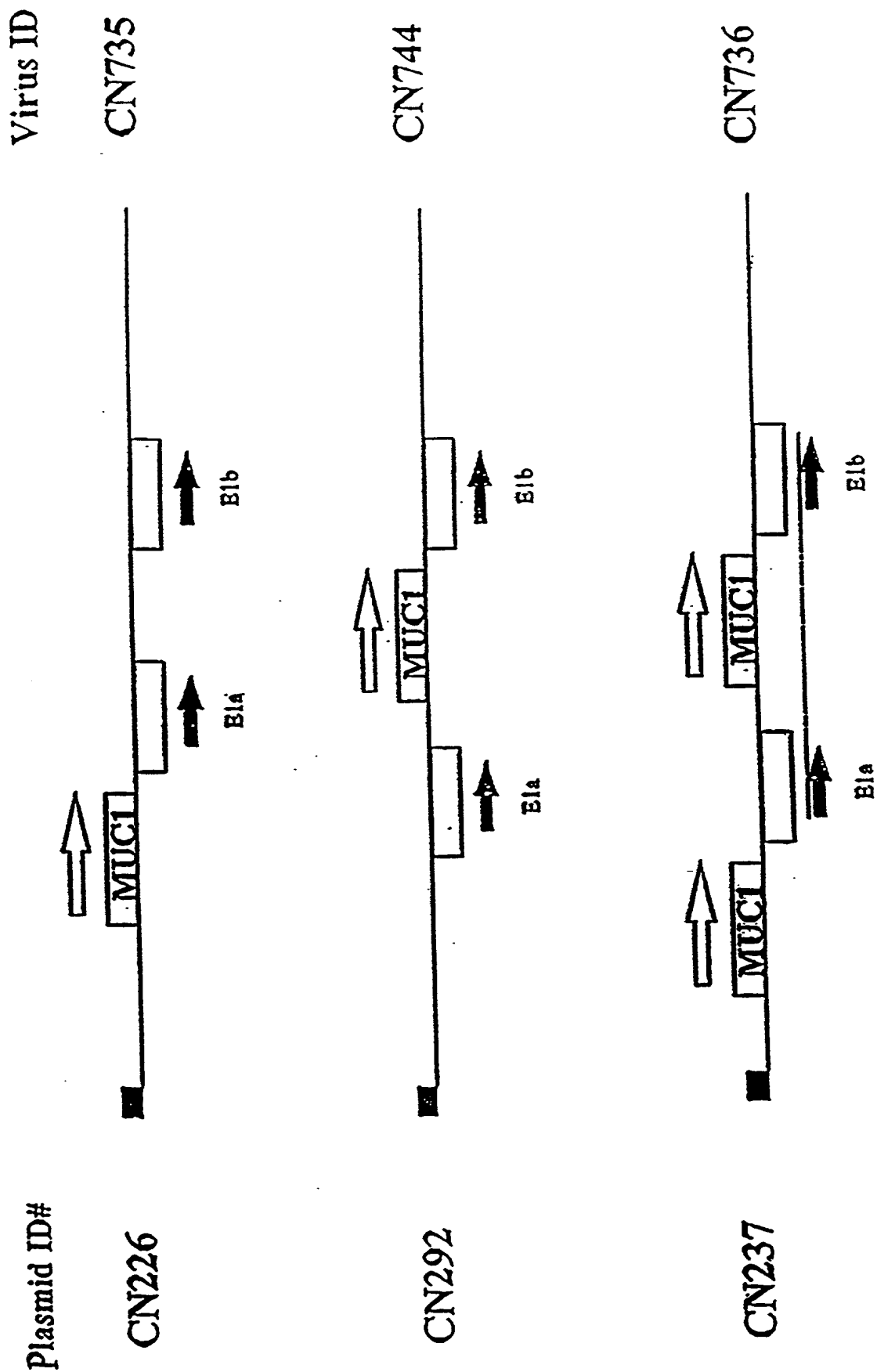
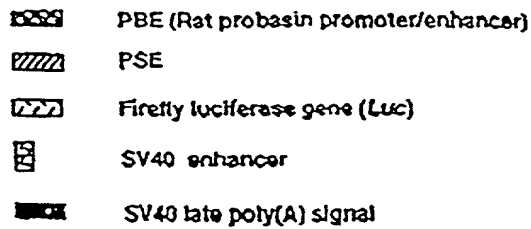


FIGURE 9

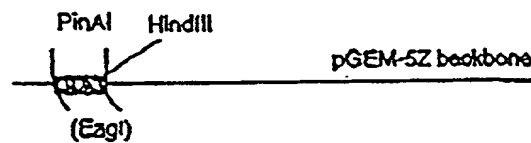
-426
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 ACCATTCCAGTTAAGAAAATATGATAGCATCTTGTCTTAGTCTTTTCTTAATA
 ARE-1
 GGGACATAAAGCCCACAAATAAAAAATATGCCTGAAGAATGGGACAGGCATGG
 GCATTGTCCATGCCTAGTAAAGTACTCCAAGAACCCTATTGTATACTAGATGACA
 ARE-2
 CAATGTCAATGTCTGTGTACAACCTGCCAACTGGGATGCAAGACACTGCCCATG
 +1
 CAATCATCCTGAAAAGCAGCTATAAAAAGCAGGAAGCTACTCTGCACATT
 CAAT box TATAA box Transcription site
 +28
 GTCAGTGAGGTCCAGATACCTACAG-3'

FIGURE 10

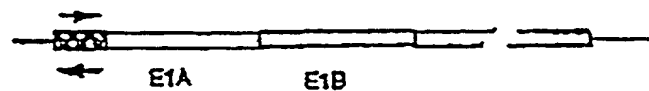
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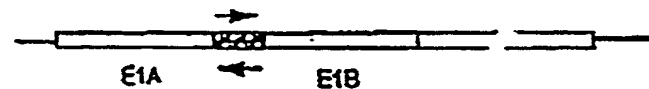
CN249
 (CN250)
 CN258
 CN271



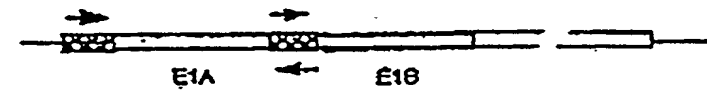
CN251
 CN253



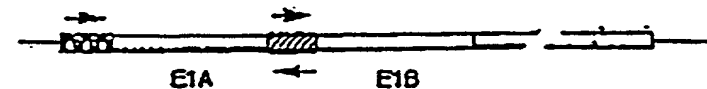
CN254 (CN275)
 CN255 (CN276)



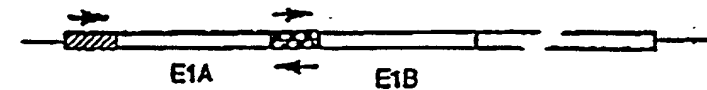
CN268
 CN269



CN257
 CN258



CN273
 CN274



CN280



CN281



FIGURE 11

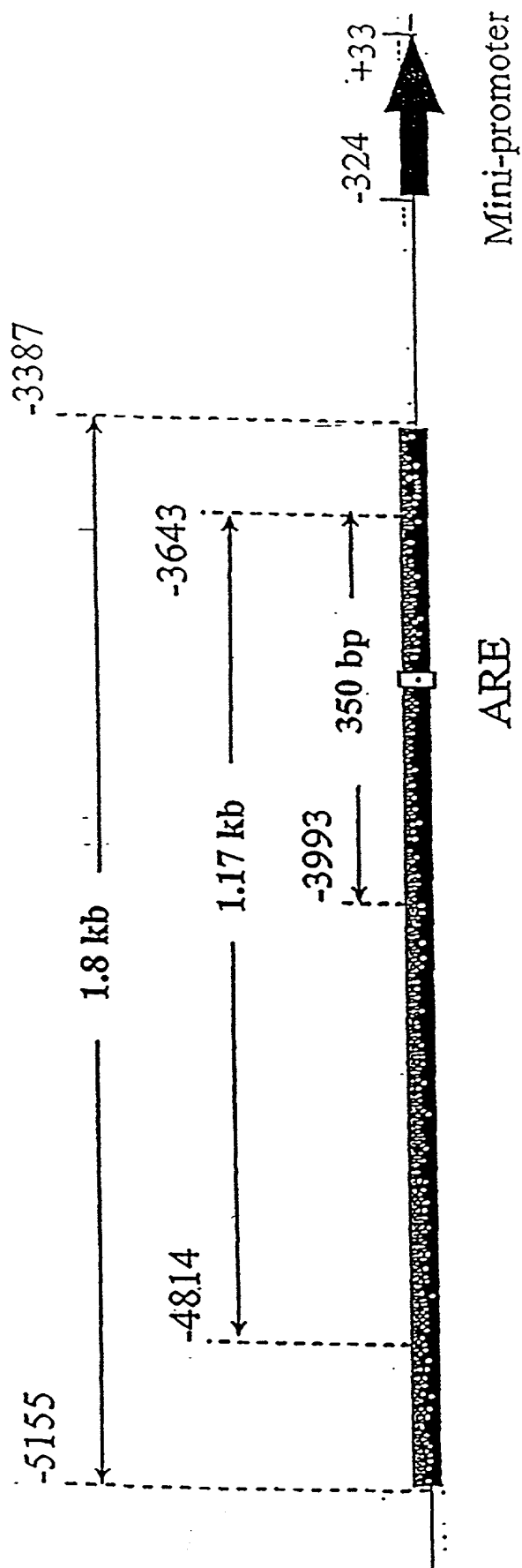


FIGURE 12

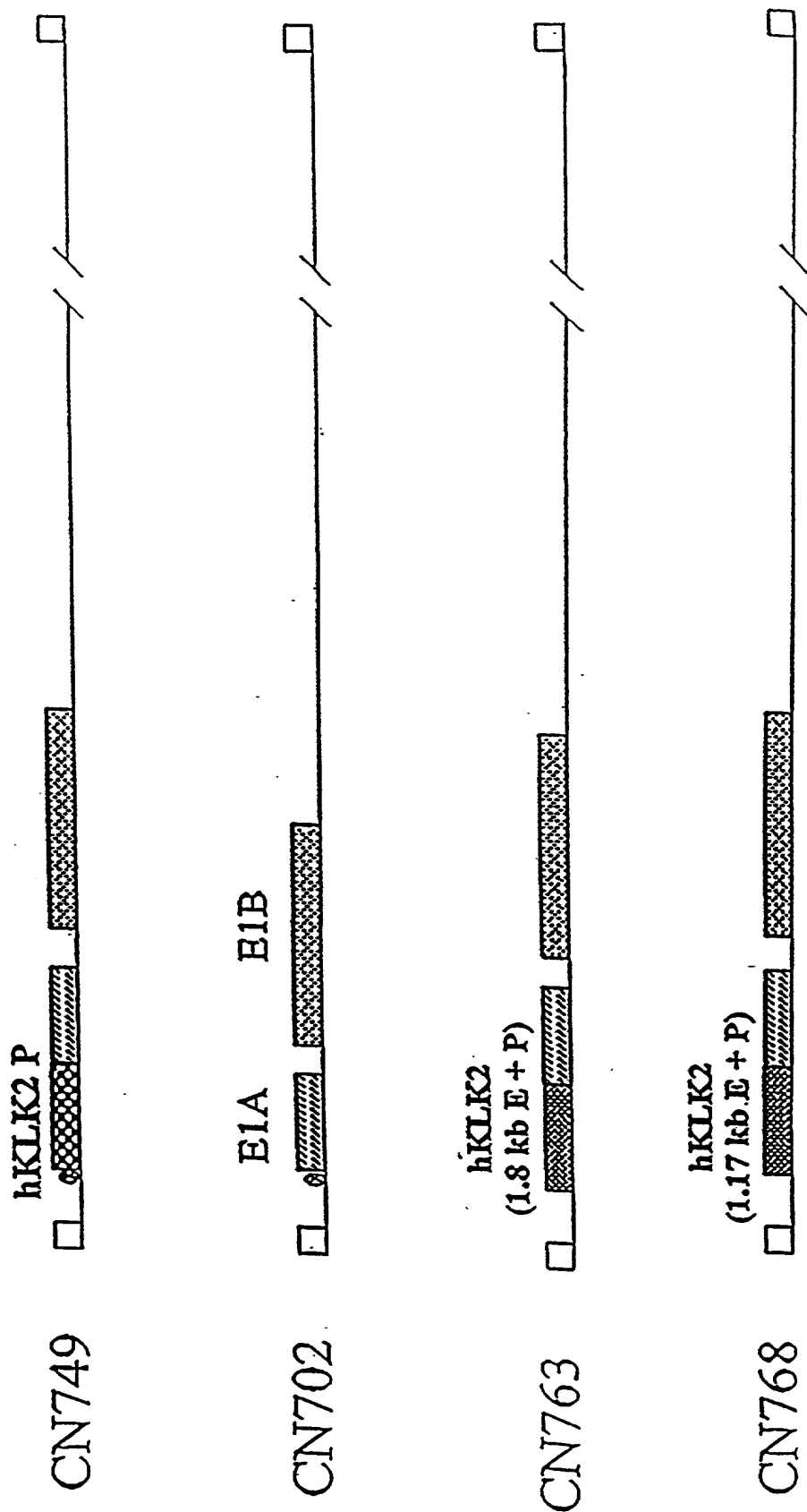


FIGURE 13

FIGURE 14A

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tactcagccc cagaagtga ggggtgaagct ggggtggagcc aaaccaggca agcctaccct 120
cagggtcccc agtggcctga gaaccattgg acccaggacc cattacttct agggtaagga 180
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FIGURE 14B

atccagcccc cagagccacc tctgtcacct tctgtctggg catcatccca ccttcacaag 1740
cactaaagag catggggaga cctggctagc tgggtttctg catcacaag aaaataatcc 1800
cccaggttcg gattcccagg gctctgtatg tggagctgac agacctgagg ccaggagata 1860
gcagaggtca gccctaggga ggggtgggtca tccacccagg ggacaggggt gcaccagcct 1920
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FIGURE 14C

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aacagaagca atttggcctt cctaaaattc cacatcatat catcatgatg gagacagtgc 5040
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FIGURE 14D

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FIGURE 14E

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agactttggg aagggaatg tatgacgtga gccacagcc taaggcagtg gacagtccac	8460
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FIGURE 14F

gaaaacatgt	tttattaaga	ggaaaaatct	aggctagaag	tgctttatgc	tcttttttct	8580
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FIGURE 14G

acaccagtgt	ctaagcccct	gatgagaaca	gggtggtctc	tcccatatgc	ccataaccagg	10260
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cctaacgtgc	agccatgccc	atctaccac	tgctactgc	aggacagcac	caaccaggga	10380
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gggcaccatt	tatgcctagg	acaccacct	gccggcccca	ggctcttaag	agttagggtca	10500
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cagtgagccg	agatcacacc	actgcactcc	agcctgggtg	acagaatgag	actctgtctc	10620
aaaaaaaaag	agaaagatag	catcagtggc	taccaagggc	taggggcagg	ggaagggtga	10680
gagttaatga	ttaatagtat	gaagtttcta	tgtgagatga	tgaaaatgtt	ctggaaaaaa	10740
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ttaacatgat	taatgtggca	tattttatct	tatgtatttg	actacatcca	agaaacactg	10860
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ggagtgaaga	gtgagggtga	cttgtccctg	ctcctctctg	ctaccccaac	attcaccttc	11940

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FIGURE 14H

tcctcatgcc cctctctctc aaatatgatt tggatctatg tccccgcca aatctcatgt 12000
caaattgtaa accccaatgt tggaggtggg gccttgtag aagtgattgg ataatgcggg 12060
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FIGURE 14I

caacagaccc ttctgatctc tccacatac ctgctctgtt cttttctggg tcctatgagg 13680
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FIGURE 15A

aagcttctag ttttcttttc ccggtgacat cgtggaaagc actagcatct ctaagcaatg 60
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FIGURE 15B

catattgtat cgattgtcct tgacagtaaa caaatctgtt gtaagagaca ttatctttat 1740
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FIGURE 15C

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FIGURE 15D

atgattctga cctgggaggg caggtcagca ggcatctctg ttgcacagat agagtgtaca 5160
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ccccagcccc aagctt 5836

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FIGURE 16A

gaattcagaa ataggggaag gttgaggaag gacactgaac tcaaagggga tacagtgatt 60
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aagtacagtc aataacatta aagcctcagg aggagaaaag aataggaaaag gaggaaatat 1440
gtgaataaat agtagagaca tgtttgatgg attttaaaat atttgaaaga cctcacatca 1500
aaggattcat accgtgccat tgaagaggaa gatggaaaag ccaagaagcc agatgaaagt 1560
tagaaatatt attggcaaag cttaaattgt aaaagtccta gagagaaagg atggcagaaa 1620
tattggcggg aaagaatgca gaacctagaa tataaattca tcccaacagt ttggtagtgt 1680

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FIGURE 16B

gcagctgtag ccttttctag ataatacact attgtcatac atcgcttaag cgagtgtaaa 1740
atgggtctcct cactttatntt atttatatat ttatttagtt ttgagatgga gcctcgctct 1800
gtctcctagg ctggagtgca atagtgcgat accactcact gcaacctctg cctcctctgt 1860
tcaagtgatt ttcttacctc agcctcccga gtagctggga ttacaggtgc gtgccaccac 1920
accgggctaa tttttgtatt tttttagag acggggtttt gccatgttg ccaggctgg 1980
cttgaactcc tgacatcagg tgatccacct gccttggcct cctaaagtgc tgggattaca 2040
ggcatgagcc accgtgccca accactttat ttatttttta tttttatntt taaatttcag 2100
cttctatntt aaatacagg ggacatatata taggattgtt acatgggtat attgaactca 2160
ggtagtgate atactacca acaggtaggt tttcaacca ctccccctct tttctcccc 2220
attctagtag tgtgcagtgt ctattgttct catgtttatg tctatgtgtg ctccaggttt 2280
agctcccacc tgtaagttag aacgtgtggg atttgatttt ctgtccctgt gttattcac 2340
ttaggattat ggcttccagc tccattcata ttgctgtaaa ggatatgatt catttttcat 2400
ggccatgcag tattccatat tgcgtataga tcacattttc tttctttttt tttttgaga 2460
cggagtcttg ctttgtgtgc taggctggag tgcagtagca cgatctggc tcaactgcaag 2520
cttcacctcc ggggttccag tcattcttct gtctcagctt cccaagtagc tgggactaca 2580
ggcgcccgcc accacgtccg gctaattttt ttgtgtgttt ttagtagaga tgggggtttc 2640
actgtgttag ccaggatggg cttagctctc tgacctgtg gtccacctgc ctgggtctcc 2700
caaagtgtg ggattacagg ggtgagccac tgcgcccggc ccatatatac cacattttct 2760
ttaaccaatc caccattgat gggcaactag gtagattcca tggattccac agttttgcta 2820
ttgtgtgcag tgtggcagta gacatatgaa tgaatgtgtc tttttggtat aatgatttgc 2880
attcctttgg gtatacagtc attaatagga gtgctgggtt gaacgggtggc tctgtttaaa 2940
attctttgag aattttccaa actgtttgcc atagagagca aactaattta catttccag 3000
aacagtatat aagcattccc ttttctccac agctttgtca tcatggtttt ttttttctt 3060
tattttaaaa aagaatatgt tgttgttttc ccagggtaca tgtgcaggat gtgcaggttt 3120
gttacatagg tagtaaactg gagccatggg ggttgtgtgc acctgtcaac ccattacctg 3180
ggtatgaagc cctgcctgca ttagctcttt tccctaagtc tctcactact gccccacct 3240
cacctgaca gggcaaacag acaacctaca gaatgggagg aaatttttgc aatctattca 3300
tctgacaaag gtcaagaata tccagaatct acaaggaact taagcaaatt tttacttttt 3360

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FIGURE 16C

aataatagcc actctgactg gcgtgaaatg gtatctcatt gtggttttca tttgaatttc 3420
tctgatgac agtgacgatg agcatttttt catatttggt ggctgcttgt acgtcttttg 3480
agaagtgtct cttcatgcct tttggccact ttaatgggat tttttttgc tttttagttt 3540
aagttcctta tagattctgg atattagact tcttattgga tgcatagttt gtgaatactc 3600
tcttccattc tgtaggttgt ctgtttactc tattgatggc ttcttttgct gtgccgaagc 3660
atcttagttt aattagaaac cacctgccaa tttttgtttt tgttgcaatt gcttttgggg 3720
acttagtcat aaactctttg ccaaggtctg ggtcaagaag agtatttctt aggttttctt 3780
ctagaatttt gaaagtctga atgtaaacad ttgcattttt aatgcattct gagttagttt 3840
ttgtatatgt gaaaggtcta ctctcatttt ctttccctct ttcttttctt ctttcttttc 3900
tttctttctt tctttctttc tttctttctt tctttctttc tttctttttg tcttcttttc 3960
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caactgattc tctgcatca gccttccaag tagctgggat tataggcgcc cgccaccacg 4140
cccgactaat ttttgtattt ttagtagaga cggggttggt ccatgttggc caggctgggt 4200
tgaaactcct gacctcaaac gatctgcctg ccttggcctc ccaaagtgtt gggattacag 4260
gtgtgagcca ctgtgccag ccaagaatgt cattttctaa gaggtccaag aacctcaaga 4320
tattttggga ccttgagaag agaggaattc atacaggtat tacaagcaca gcctaattggc 4380
aaatctttgg catggcttgg ctccaagact ttaggctctt aaaagtcgaa tccaaaaatt 4440
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gctatacttt acacaaataa acaggccaaa tataatgagg ccaaaattta ttttgcaaat 4560
aaattggtcc tgctatgatt tactcttggt aagaacaggg aaaatagaga aaaatttaga 4620
ttgcatctga cttttttttc tgaattttta tatgtgccta caatttgagc taaatcctga 4680
attattttct ggttgcaaaa actctctaaa gaagaacttg gttttcattg tcttcgtgac 4740
acatttatct ggctctttac tagaacagct ttcttgtttt tgggtgttcta gcttggtgac 4800
cttacagttc tactcttcaa attattgtta tgtgtatctc atagttttcc ttcttttgag 4860
aaaactgaag ccatgggtatt ctgaggacta gagatgactc aacagagctg gtgaatctcc 4920
tcatatgcaa tccactgggc tcatctgct tcaaattgct gatgcactgc tgctaaagct 4980
atacatttaa aacctcact aaaggatcag ggaccatcat ggaagaggag gaaacatgaa 5040
attgtaagag ccagattcgg ggggtagagt gtggagggtc gagcaactcc acctgaata 5100

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FIGURE 16D

agaaggtaaa gcaacctatc ctgaaagcta acctgccatg gtggcttctg attaacctct 5160
gttctaggaa gactgacagt ttgggtctgt gtcattgccc aaatctcatg ttaaattgta 5220
atccccagtg ttcgagggtg ggacttggtg gtaggtgatt cggtcatggg agtagatttt 5280
cttctttgtg gtgttacagt gatagtgagt gagttctcgt gagatctggt catttaaaag 5340
tgtgtggccc ctccccctcc tctcttggtc ctccactgac catgtaagat acctgctcct 5400
gctttgcctt ctaccataag taaaagcccc ctgaggcctc ccagaagca gatgccacca 5460
tgcttctgt acagcctgca gaaccatcag ccaattaaac ctcttttctg tataaattac 5520
cagtcttgag tatctcttta cagcagtgtg agaacggact aatacaaggg tctccaaaat 5580
tccaagttta tgtattcttt cttgccaaat agcaggattt taccataaat cctgtcctta 5640
ggtcaaaca ccttgatggc atcgacttc aattgtctta cacattcctt ctgaatgact 5700
cctccccat ggcatataag cctgggtct tgggggataa tggcagaggg gtccaccatc 5760
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aaatgtgtcc aaagatggaa aatgtttgag aactactgtc ccagagattt tctgagttc 6060
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catatgaata atttcagcct gatccaactt tacattcctt ctaccgttat tctacacca 6540
ccttaaaaat gcattcccaa tatattccct ggattctacc tatatatggt aatcctggct 6600
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aagagtcct ctgcagagt caggagtct caagatggcc cttacttctg acatcaattg 6720
agatttcaag ggagtcgcca agatcatcct caggttcagt gattgctggt agccctcata 6780

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FIGURE 16E

taactcaatg aaagctgtta tgctcatggc tatggtttat tacagcaaaa gaatagagat 6840
gaaaatctag caaggggaaga gttgcatggg gcaaagacaa ggagagctcc aagtgcagag 6900
attcctgttg ttttctccca gtgggtgtcat ggaaagcagt atcttctcca tacaatgatg 6960
tgtgataata ttcagtgtat tgccaatcag ggaactcaac tgagccttga ttatattgga 7020
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agacgtctac agctgatagg ctgtaaccca acattgtcac cataaatcac attgttagac 7140
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agaatccttt accgcacact ctctctcaca gggttattgt gaggatcaaa tgtgggtcatg 7320
tgtgtgagac accagcacat gtctggctgt ggagagtgc ttctatgtgt gctaacattg 7380
ctgagtgcata agaaagtatt aggcattggt ttcagcactc acagatgctc atctaactct 7440
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taagaagggg gtgaccaata ggtcagagtc attctggatg caaggggctc cagaggacca 7560
tgattagaca ttgtctgcag agaaattatg gctggatgct tctgccccgg aaaggggggat 7620
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cactcttccc agctccatct ccagctggcc aggtgtagcc acagtaccta actctttgca 7800
gagaactata aatgtgtatc ctacagggga gaaaaaaaaa aagaactctg aaagagctga 7860
cattttaccg acttgcaaac acataagcta acctgccagt tttgtgctgg tagaactcat 7920
gagactcctg ggtcagaggc aaaagatttt attaccaca gctaaggagg cagcatgaac 7980
tttgtgttca catttgttca ctttgcccc caattcatat gggatgatca gagcagttca 8040
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cttataagaa ggtactagca aacttgtcca gtctttgtat ctgacggaga tattatcttt 8160
ataattgggt tgaaagcaga cctactctgg aggaacatat tgtatttatt gtctgaaca 8220
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agatctgaag gcgataccat cttgcaaggc tatctgctgt acaaatatgc ttgaaaagat 8340
ggtccagaaa agaaaacggt attattgcct ttgctcagaa gacacacaga aacataagag 8400
aaccatggaa aattgtctcc caacactgtt caccagagc cttccactct tgtctgcagg 8460
acagtcttaa catcccatca ttagtgtgtc taccacatct ggcttcacg tgccaaacca 8520

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FIGURE 16F

agatttctag gtccagttcc ccaccatggt tggcagtgcc ccaactgcaa cccagaata 8580
agggagtgtc cagaattccg aggggacatg ggtggggatc agaacttctg ggcttgagtg 8640
cagagggggc ccatactcct tggttccgaa ggaggaagag gctggaggtg aatgtccttg 8700
gaggggagga atgtgggttc tgaactctta aatccccaag ggaggagact ggtaaggtcc 8760
cagcttccga ggtactgacg tgggaatggc ctgagaggtc taagaatccc gtatcctcgg 8820
gaaggagggg ctgaaattgt gaggggttga gttgcagggg tttgttagct tgagactcct 8880
tggtgggtcc ctgggaagca aggactggaa ccattggctc cagggtttgg tgtgaaggta 8940
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ccatctactc cttactccac ttgagggtaa tcacctactc ttctagttcc acaagagtgc 9060
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accacaggaa accaggactg aaagggtgta gagaatggcc atatgtcgct gtccatgaaa 9360
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ggaggaggct gtggactggc tcgagaagtg ggatgtggtt gtgtttgatt tcctttggcc 9660
agataaagtg ctggatatag cattgaaaac ggagtatgaa gaccagttag aatggagggt 9720
caggttggag ttgagttaca gatggggtaa aattctgctt cggatgagtt tggggattgg 9780
caatctaaag gtggtttggg atggcatggc tttgggatgg aaataggttt gtttttatgt 9840
tggtctggaa ggggtgtggg attgaattgg ggatgaagta ggttttagttt tggagataga 9900
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ttgtgggtga tgtggttga ttgggctgtg ttaaattggt ttgggtcagg ttttggttga 10080
ggttatcatg gggatgagga tatgcttggg acatggattc aggtggttct cattcaagct 10140
gaggcaaatt tcctttcaga cggtcattcc agggaaacgag tggttgtgtg ggggaaatca 10200

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FIGURE 16G

ggccactggc tgtgaatata cctctatcct ggtcttgaat tgtgattata tatgtccatt 10260
ctgtctcctt cactgtactt ggaattgata tggtcattca gctggaaatg ggggaagatt 10320
ttgtcaaatt cttgagacac agctgggtct ggatcagcgt aagccttcct tctggtttta 10380
ttgaacagat gaaatcacat tttttttttt aaaatcacag aaatcttata gagttaacag 10440
tggactctta taataagagt taacaccagg actcttattc ttgattcttt tctgagacac 10500
caaaatgaga tttctcaatg ccaccctaata tctttttttt tttttttttt tttttgagac 10560
acagtctggg tcttttgctc tgtcactcag gctggagcgc agtgggtgtga tcatagctca 10620
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aagggctca cttgttgcc ctggctgata ttgaacttct gacttcaagt gattcttcag 10800
ccttggactc ccaaagcact gggattgctg gcatgagcca ctcacgtgc ctggcttgca 10860
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gcattggatt ttgcatgagg acaattctga cctaggaggg caggtaaca ggaatccccg 10980
ctgtacctgt acgttgata ggcatggaga atgaggagtg aggaggccgt accggaaccc 11040
catattgttt agtggacatt ggattttgaa ataataggga acttgggtctg ggagagtcac 11100
atttctggat tggacaatat gtggtatcac aaggttttat gatgaggag aaatgtatgt 11160
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tctatttcag gaacatggtg agttggaggt ccagctctcg ggctcagacg ggtataggga 11280
ccaggaagtc tcacaatccg atcattctga tatttcaggg catattaggt ttgggggtgca 11340
aaggaagtac ttgggactta ggcacatgag actttgtatt gaaaatcaat gattggggct 11400
ggcgtgggtg ctcacgcctg taatctcctc actttgggag accgaagtgg gaggatggct 11460
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gacaggagaa tcggttgagt ctgggagttc aaggctacag ggagctgca tcacgccgct 11640
gactccagc ctgggaaaca gactgagact gtctcagaat ttttttaaaa aagaatcagt 11700
gatcatccca acccctgttg ctgttcaccc tgagcctgcc ttctctggct ttgttcctta 11760
gatcacatct ccatgatcca taggcctgc ccaatctgac ctcacaccgt gggaaatgcct 11820
ccagactgat ctagtatgtg tggaaacagca agtgcctggct ctccctcccc ttccacagct 11880
ctgggtgtgg gaggggggtg tccagcctcc agcagcatgg ggagggcctt ggtcagcatc 11940

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FIGURE 16H

taggtgcaa cagggcaagg gcggggctct ggagaatgaa ggctttatag ggctcctcag 12000
ggaggcccc cagccccaaa ctgcaccacc tggccgtgga caccggt 12047

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FIGURE 17

cgagcggccc ctcagcttgc gcgcccagcc ccgcaaggct cccggtgacc actagagggc 60
gggaggagct cctggccagt ggtggagagt ggcaaggaag gaccctaggg ttcacggag 120
cccagggtta ctcccttaag tggaaatttc ttccccact cctccttggc tttctccaag 180
gagggaaacc aggctgctgg aaagtccggc tggggcgggg actgtgggtt caggggagaa 240
cggggtgtgg aacgggacag ggagcggta gaaggggtgg gctattccgg gaagtgggtg 300
ggggaggag cccaaaacta gcacctagtc cactcattat ccagccctct tatttctcgg 360
ccgctctgct tcagtggacc cggggagggc ggggaagtgg agtgggagac ctaggggtgg 420
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gggtagtcag ggggttgagc gattagagcc cttgtacct acccaggaat ggttggggag 660
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ctgtgcctag ggcggggcgg cggggagtgg ggggaccggt ataaagcggg aggcgcctgt 780
gcccgtcca cctctcaagc agccagcgcc tgctgaatc tgttctgccc cctccccacc 840
catttcacca ccaccatg 858

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FIGURE 18

aagcttccac aagtgcattt agcctctcca gtattgctga tgaatccaca gttcagggttc 60
aatggcggttc aaaacttgat caaaaatgac cagactttat attcttacac caacatctat 120
ctgattggag gaatggataa tagtcatcat gtttaaacad ctaccattcc agttaagaaa 180
atatgatagc atcttggttct tagtcttttt cttaataggg acataaagcc cacaataaaa 240
aatatgcctg aagaatggga caggcattgg gcattgtcca tgcctagtaa agtactccaa 300
gaacctatct gtatactaga tgacacaatg tcaatgtctg tgtacaactg ccaactggga 360
tgcaagacac tgcccatgcc aatcatcctg aaaagcagct ataaaaagca ggaagctact 420
ctgcaccttg tcagtgaggt ccagatacct acag 454

FIGURE 18

g atg acc ggc tca acc atc gcg ccc aca acg gac tat cgc aac acc act	49
Met Thr Gly Ser Thr Ile Ala Pro Thr Thr Asp Tyr Arg Asn Thr Thr	
1 5 10 15	
gct acc gga cta aca tct gcc cta aat tta ccc caa gtt cat gcc ttt	97
Ala Thr Gly Leu Thr Ser Ala Leu Asn Leu Pro Gln Val His Ala Phe	
20 25 30	
gtc aat gac tgg gcg agc ttg gac atg tgg tgg ttt tcc ata gcg ctt	145
Val Asn Asp Trp Ala Ser Leu Asp Met Trp Trp Phe Ser Ile Ala Leu	
35 40 45	
atg ttt gtt tgc ctt att att atg tgg ctt att tgt tgc cta aag cgc	193
Met Phe Val Cys Leu Ile Ile Met Trp Leu Ile Cys Cys Leu Lys Arg	
50 55 60	
aga cgc gcc aga ccc ccc atc tat agg cct atc att gtg ctc aac cca	241
Arg Arg Ala Arg Pro Pro Ile Tyr Arg Pro Ile Ile Val Leu Asn Pro	
65 70 75 80	
cac aat gaa aaa att cat aga ttg gac ggt ctg aaa cca tgt tct ctt	289
His Asn Glu Lys Ile His Arg Leu Asp Gly Leu Lys Pro Cys Ser Leu	
85 90 95	
ctt tta cag tat gat taa	307
Leu Leu Gln Tyr Asp	
100	

FIGURE 19

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